

ABSTRACT OF THE DISCLOSURE

A pore- or particle-size distribution measurement apparatus is provided. When the size of a pore existing in a porous insulator film or the size of a particle in a thin film is measured, a specimen having the insulator film on the surface of a substrate is irradiated, from the surface side thereof, with X-rays at a specified incident angle larger than the total reflection critical angle of the insulator film but less than 1.3 times the total reflection critical angle of the substrate. In the irradiated X-rays, among components exiting from the insulator film without entering the pore and scattering of reflection component of the X-rays reflected on the surface of the substrate after having entered the insulator film, the scattered component whose exit angle is larger than that of a component of the reflection component which exits from the insulator film without entering the pore is detected.